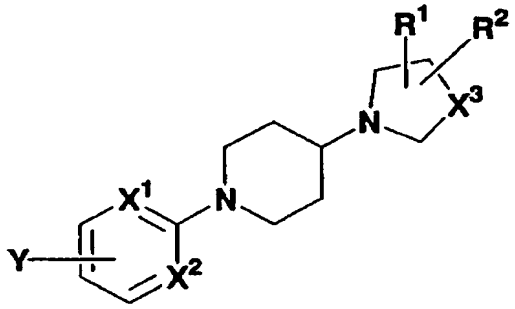
AMENDMENTS TO THE CLAIMS

Please cancel Claims 1-15 without prejudice and insert therefore new Claims 16-33. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-15 (canceled)

16. (New) A compound of the formula (I):



(I)

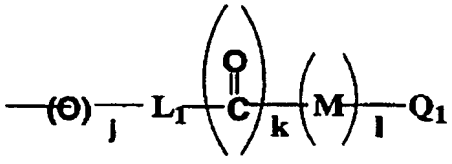
wherein:

X^1 and X^2 independently represent a nitrogen atom or CH;

X^3 represents $-O_s-(CH_2)_m-$, wherein s indicates 0 or 1, and m indicates an integer to make (m + s) = 0, 1, 2, 3 or 4;

R^1 and R^2 independently represent a hydrogen atom, a halogen atom, a linear or branched lower alkyl group, a lower alkoxy group, or an acetyl group substituted with 2 or 3 fluorine atoms;

Y represents a group of the formula (II):



(II)

wherein in formula (II):

j, k and l independently indicate 0 or 1;

L_1 represents a C1 to C4 lower alkylene group or a single bond;

M represents an oxygen atom or a group of the formula (III):

(III)

wherein in formula (III) R^0 represents a hydrogen atom or a C1 to C4 lower alkyl group;
Q_1 represents a linear or branched lower alkyl group, an optionally-condensed C3 to C9 cycloalkyl group, a phenyl group, a naphthyl group, or an optionally-condensed 3- to 8-membered heterocyclic group (the hetero ring may have from 1 to 3 hetero atoms selected from a group consisting of an oxygen atom, a sulfur atom and a nitrogen atom), which is unsubstituted or has a substituent selected from a group consisting of a cyano group, a hydroxyl group, a lower alkyl group (the lower alkyl group may be further substituted with a hydroxyl group, a halogen atom, an amino group, an aryl group or a heteroaryl group), a cycloalkyl group, a lower alkoxy group (the lower alkoxy group may be further substituted with a halogen atom), a halogen atom, a mono-lower alkylcarbamoyl group, a di-lower alkylcarbamoyl group, a carbamoyl group, a cycloalkyliminocarbamoyl group, a lactam ring, a trifluoromethyl group, a mono-lower alkylamino group, a di-lower alkylamino group and an alkanoyl group);
with the proviso that:
1) Y is not an alkoxycarbonyl group, or
2) Y is not a group of the formula (II-1):

$$-L_1\text{-}O\text{-}Q_1 \qquad \text{(II-1)};$$

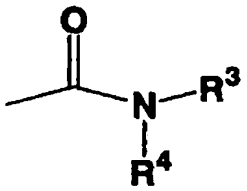
with the exception of a compound which is:
1-[4-(piperidin-1-yl)piperidin-1-yl]-4-(7-carbamoyl-1H-benzimidazol-2-yl)benzene,
1-{4-(piperidin-1-yl)piperidin-1-yl}-4-(5-cyano-6-oxo-pyridin-2-yl)benzene, or
1-{4-(pyrrolidin-1-yl)piperidin-1-yl}-4-(5-cyano-6-oxo-pyridin-2-yl)benzene);
or a pharmaceutically-acceptable salt thereof.

17. (New) The compound of Claim 16, wherein R^1 and R^2 are hydrogen atoms, X^3 is $-O_s-(CH_2)_m-$, wherein s is 0 and m is an integer which is 1, 2 or 3.

18. (New) The compound of Claim 16, wherein X^3 is $-O_s-(CH_2)_m-$, wherein s is 0 and m is an integer which is 1, 2 or 3, to form a nitrogen-containing heterocyclic group which is selected from 1-pyrrolidinyl, piperidinyl and 1-hexamethyleneiminyl.

19. (New) The compound of Claim 18, wherein X^3 is $-O_s-(CH_2)_m-$, wherein s is 0 and m is an integer which is 2, to form a piperidinyl group.

20. (New) The compound of Claim 16, wherein Y is a group of the formula (IV):

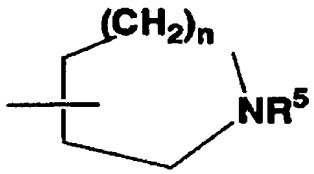


(IV)

wherein:

R^3 is a hydrogen atom, or a lower alkyl group, and

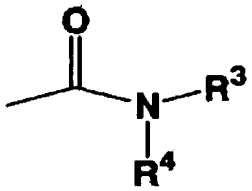
R^4 is a group of the formula (V):



(V)

wherein R^5 represents a hydrogen atom, a lower alkyl group, a C3 to C8 cycloalkyl group, an aralkyl group, or a heteroaryl group; n indicates 0 or an integer which is 1, 2, 3 or 4.

21. (New) The compound of Claim 16, wherein in formula (II), Y is a group of the formula (IV):



(IV)

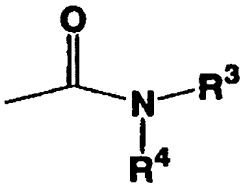
wherein R^3 is a hydrogen atom, or a lower alkyl group, and

R^4 is a group of the formula (VI):

$$-(CH_2)_q\text{-}A \qquad \text{(VI)}$$

wherein A represents an aryl group, a heteroaryl group, a condensed bicyclic group of a C4 to C7 cycloalkyl group and an aryl group, or a condensed bicyclic group of a C4 to C7 cycloalkyl group and a heteroaryl group; q indicates 0 or an integer which is 1, 2 or 3.

22. (New) The compound of Claim 16, wherein Y is a group of the formula (IV):



(IV)

wherein R^3 and R^4 form a nitrogen-containing heterocyclic group which is joined with the nitrogen atom to which they bond.

23. (New) The compound of Claim 22, wherein the nitrogen-containing heterocyclic group is selected from: piperidinyl, pyrrolidinyl, azetidinyl, homopiperidinyl, and heptamethyleneiminyl.

24. (New) The compound of Claim 23, wherein the nitrogen-containing heterocyclic group is piperidinyl.

25. (New) The compound of Claim 18, wherein X^1 and X^2 are both CH, or one of X^1 and X^2 is a nitrogen atom, and the other is CH.

26. (New) The compound of Claim 16, wherein Y is an aryl group or a 5-membered or 6-membered heteroaryl group (wherein the heteroaryl group has, in the ring thereof, from 1 to 3 hetero atoms selected from a group consisting of a nitrogen atom, a sulfur atom and an oxygen atom), which is unsubstituted or substituted with 1 or 2 substituents selected from a group consisting of a lower alkyl group, a lower alkoxy group, a hydroxyl group and a halogen atom.

27. (New) The compound of Claim 26, wherein X^1 and X^2 are both nitrogen atoms.

28. (New) A compound which is selected from the group consisting of:
N-methyl-N-(1-methylpiperidin-4-yl)-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-(1-methylpiperidin-4-yl)-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-(1-cyclobutylpiperidin-4-yl)-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-(1-cyclopentylpiperidin-4-yl)-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-(1-cyclohexylpiperidin-4-yl)-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-(1-cyclohexylmethylpiperidin-4-yl)-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-[(3R)-1-cyclopentylpyrrolidin-3-yl]-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-[(3S)-1-cyclopentylpyrrolidin-3-yl)]-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-[(3R)-1-benzylpyrrolidin-3-yl)]-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,

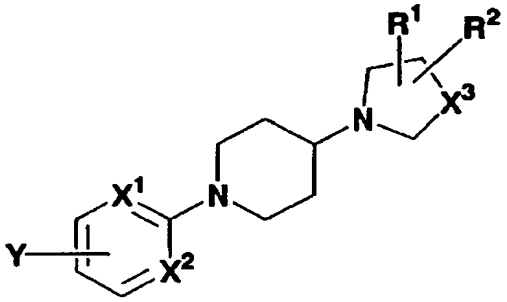
N-methyl-N-[(3R)-1-benzylpyrrolidin-3-yl)]-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-(pyridin-4-yl)-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide trifluoroacetate,
2-{4-(piperidin-1-yl)piperidin-1-yl]benzoyl-1,2,3,4-tetrahydroisoquinoline,
1-{4-(piperidin-1-yl)piperidin-1-yl]benzoyl-1,2,3,4-tetrahydroquinoline,
1-{4-(piperidin-1-yl)piperidin-1-yl]benzoyl-4-phenylpiperazine,
N-methyl-N-[1-(pyrimidin-2-yl)piperidin-4-yl]-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-(thiophen-2-yl)methyl-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-phenethyl-4-[4-(piperidin-1-yl)piperidin-1-yl]benzamide,
1-{4-(piperidin-1-yl)piperidin-1-yl]benzoyl-3-(3,4-difluorophenyl)pyrrolidine,
4-{4-(piperidin-1-yl)piperidin-1-yl]benzoylpiperidin-1-yl,
N-methyl-N-(1-methylpiperidin-4-yl)-4-[4-(pyrrolidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-(1-methylpiperidin-4-yl)-4-[4-(azetidin-1-yl)piperidin-1-yl]benzamide,
N-methyl-N-(1-methylpiperidin-4-yl)-5-[4-(piperidin-1-yl)piperidin-1-yl]pyridine-2-carboxamide,
N-methyl-N-(1-methylpiperidin-4-yl)-4-[4-(4,4-difluoropiperidin-1-yl)piperidin-1-yl]benzamide,
2-[(4-piperidin-1-yl)piperidin-1-yl]-5-(4-cyanophenyl)pyrimidine,
2-[(4-piperidin-1-yl)piperidin-1-yl]-5-(3-pyridyl)pyrimidine,
2-[4-(piperidin-1-yl)piperidin-1-yl]-5-(3-trifluoromethylphenyl)pyrimidine,
2-[4-(piperidin-1-yl)piperidin-1-yl]-5-(3,5-dichlorophenyl)pyrimidine,
2-[4-(piperidin-1-yl)piperidin-1-yl]-5-(2-naphthyl)pyrimidine,
2-[4-(piperidin-1-yl)piperidin-1-yl]-5-[4-(pyrrolidin-1-ylcarbonyl)phenyl]pyrimidine,
1-[4-(piperidin-1-yl)piperidin-1-yl]-4-(3-pyridyl)benzene,
1-(piperidin-1-ylmethyl)-4-[4-(piperidin-1-yl)piperidin-1-yl]benzene,
or a pharmaceutically-acceptable salt thereof.

29. (New) A pharmaceutical composition which comprises an inert carrier and a compound of Claim 16, or a pharmaceutically acceptable salt thereof..

30. A method for treating a disease or disorder selected from the group consisting of: obesity, diabetes, hormone secretion disorder, hyperlipemia, gout, fatty liver; circulatory system disease, stenocardia, acute cardiac insufficiency, congestive cardiac insufficiency, cardiac infarction, coronary arteriosclerosis, hypertension, nephropathy, sleep disorder, diseases accompanied by sleep disorder, idiopathic hypersomnnia, repetitive hypersomnnia, true hypersomnnia, narcolepsy, sleep periodic acromotion disorder, sleep apnea syndrome, circadian rhythm disorder, chronic fatigue syndrome, REM sleep disorder, senile insomnia, night worker sleep insanitation, idiopathic insomnia, repetitive insomnia, true insomnia, electrolyte metabolism disorder, central nervous system disease, peripheral nervous system disease, bulimia, emotional disorder, melancholia, anxiety, epilepsy, delirium, dementia, shinzophrenia, attention deficit/hyperactivity disorder, memory disorder, Alzheimer's disease, Parkinson's disease, sleep

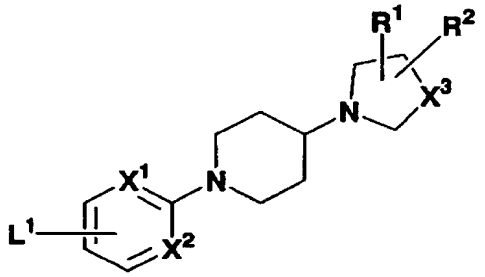
disorder, recognition disorder, motion disorder, paresthesia, dysosmia, epilepsy, morphine resistance, narcotic dependency, and alcoholic dependency; in a mammalian patient in need thereof which comprises administering to the patient a therapeutically effective amount of the compound of Claim 16, or a pharmaceutically acceptable salt thereof.

31. (New) A process for producing the compound of Claim 16 of the formula (I-1), or a pharmaceutically acceptable salt thereof,



(I-1)

which comprises reacting a compound of the formula (Ia):



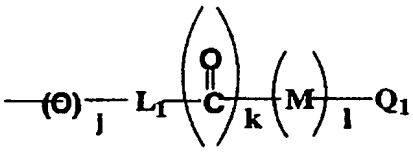
(Ia)

wherein X^1, X^2, X^3, R^1 and R^2 have the same meanings as X^1, X^2, X^3, R^1 and R^2 in formula (I); and L^1 represents a leaving group,

and a compound of the formula (IIa):

$$Met - Y^{1p} \qquad (IIa)$$

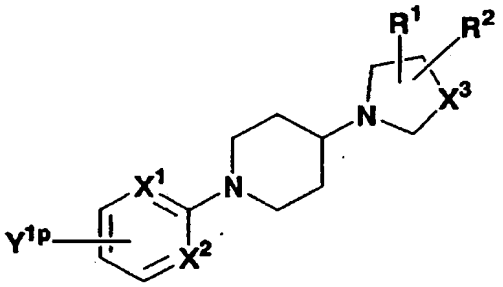
wherein Met represents a metal atom-containing atomic group; and Y^{1p} has the same meaning as Y in the formula (II):



(II)

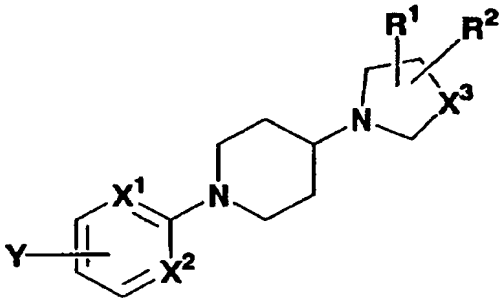
or represents a group corresponding to it but protected at the amino group, the hydroxyl group or the carboxyl group therein,

in the presence of a catalyst to give a compound of the formula (Ib):



(Ib)

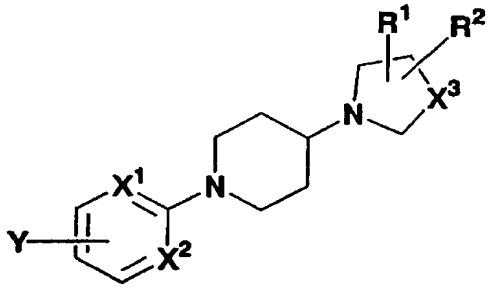
wherein X^1, X^2, X^3, R^1 and R^2 have the same meanings as X^1, X^2, X^3, R^1 and R^2 in formula (Ia); and Y^{1p} has the same meaning as Y^{1p} in formula (IIa), and optionally removing or converting the protective group for the functional group of Y^{1p} to thereby produce a compound of the formula (I-1):



(I-1)

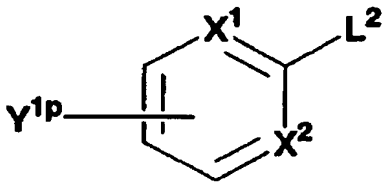
wherein X^1, X^2, X^3, R^1 and R^2 have the same meanings as X^1, X^2, X^3, R^1 and R^2 in formula (Ib); and Y is a group derived from Y^{1p} in formula (Ib) by removing or converting the protective group for the functional group of Y^{1p}.

32. (New) A process for producing the compound of Claim 16 of the formula (I-2), or a pharmaceutically acceptable salt thereof,



(I-2)

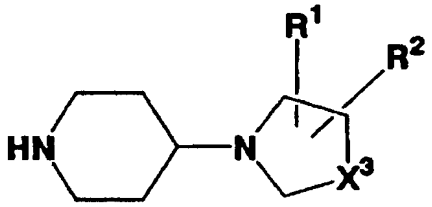
which comprises reacting a compound of the formula (Ic):



(Ic)

wherein X^1 and X^2 have the same meanings as X^1 and X^2 in formula (I); Y^{1p} has the same meaning as Y in formula (II), or represents a group corresponding to it but protected at the amino group, the hydroxyl group or the carboxyl group therein; and L^2 represents a leaving group,

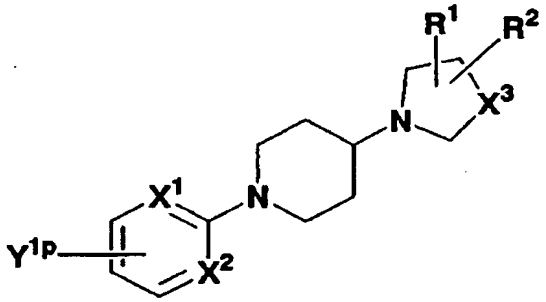
and a compound of a formula (Id):



(Id)

wherein R^1, R^2 and X^3 have the same meanings as R^1, R^2 and X^3 in formula (I)

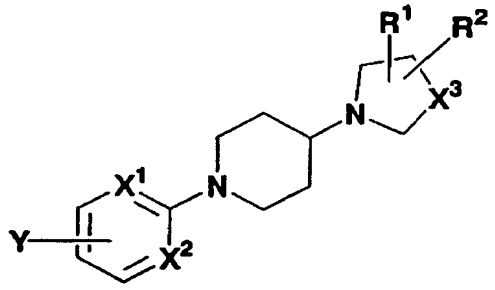
under basic conditions or in the presence of a catalyst to give a compound of the formula (Ie):



(Ie)

wherein X^1, X^2 and Y^{1p} have the same meanings as X^1, X^2 and Y^{1p} in formula (Ic); X^3, R^1 and R^2 have the same meanings as X^3, R^1 and R^2 in formula (Id),

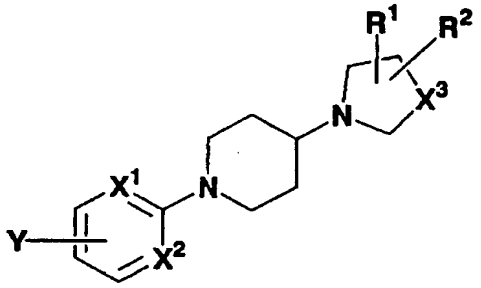
and optionally removing or converting the protective group for the functional group of Y^{1p} to thereby produce the compound of the formula (I-2):



(I—2)

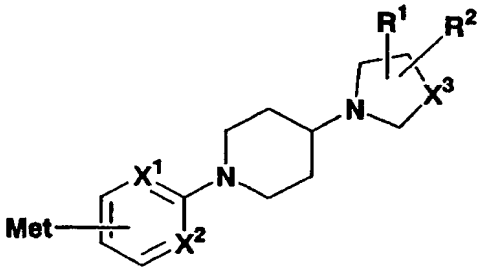
wherein X^1, X^2, X^3, R^1 and R^2 have the same meanings as X^1, X^2, X^3, R^1 and R^2 in formula (Ie); and Y is a group derived from Y^{1p} in formula (Ie) by removing or converting the protective group for the functional group of Y^{1p}.

33. (New) A process for producing the compound of Claim 16 of the formula (I-3), or a pharmaceutically acceptable salt thereof,



(I-3)

which comprises reacting a compound of the formula (If):

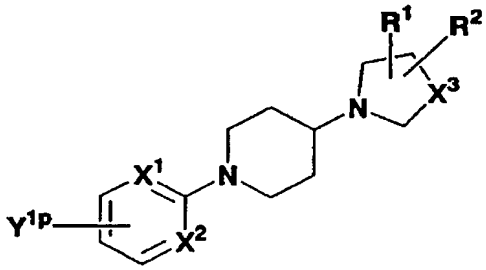


(If)

wherein X^1, X^2, X^3, R^1 and R^2 have the same meanings as X^1, X^2, X^3, R^1 and R^2 in formula (I); Met represents a metal atom-containing atomic group and a compound of the formula (IIb):

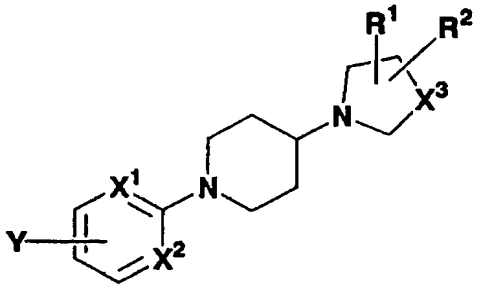
$$Y^{1p} - L^2 \qquad \text{(IIb)}$$

wherein Y^{1p} has the same meaning as Y in the formula (II), or represents a group corresponding to it but protected at the amino group, the hydroxyl group or the carboxyl group therein; and L^2 represents an ordinary leaving group to give a compound of the formula (Ig):



(Ig)

wherein X^1, X^2, X^3, R^1 and R^2 have the same meanings as X^1, X^2, X^3, R^1 and R^2 in formula (If); and Y^{1p} has the same meaning as Y^{1p} in formula (IIb), and optionally removing or converting the protective group for the functional group of Y^{1p} to thereby produce a compound of the formula (I-3):



(I – 3)

wherein X^1, X^2, X^3, R^1 and R^2 have the same meanings as X^1, X^2, X^3, R^1 and R^2 in formula (Ig); and Y is a group derived from Y^{1p} in formula (Ig) by removing or converting the protective group for the functional group of Y^{1p}.